

SYSTEM AND METHOD FOR CLEANING SEMICONDUCTOR FABRICATION EQUIPMENT PARTS

Abstract of the Disclosure

5 A process for cleaning semiconductor fabrication equipment parts includes determining a definition for a clean part including multiple maximum acceptable impurity levels; determining an initial multiple impurity levels of a part prior to its cleaning; determining a cleaning process to apply to the part; applying the cleaning process to the part, wherein the cleaning process creates reduced multiple impurity
10 levels for the part below that of the initial multiple impurity levels; determining the reduced multiple impurity levels; comparing the reduced multiple impurity levels against the multiple maximum acceptable impurities levels of the definition; and repeating the application of the cleaning process to the part if the reduced multiple impurity levels do not meet the definition of a clean part. A dilute aqueous cleaning
15 solution for cleaning parts includes 0.5 – 1.5%wt. HF; 0.1-0.5%wt. HNO₃; and 1-10%wt H₂O₂. A method for reducing sub-surface damage to a part includes determining how deep is the sub-surface damage beneath a surface of a part; chemically etching said surface of said part; and stopping said chemical etching of said surface at about said depth of said sub-surface damage.